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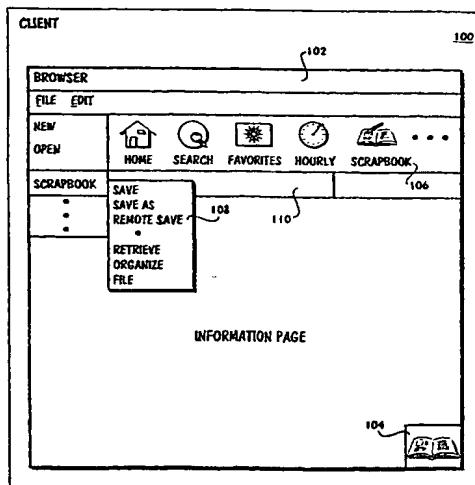
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(54) Title: METHOD AND APPARATUS FOR CREATING AND MAINTAINING A SCRAPBOOK OF INFORMATION PAGES



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(57) Abstract: A "state" icon having a plurality of manifestations corresponding to a plurality of states associated with saving a copy of a current information page being browsed is automatically displaced for a user. The "state" icon denotes to the user whether the information page or other variants have been previously saved. A "single click" icon is employed to facilitate saving a copy of the current information page being browsed for a user. The saving is accomplished without requiring further interaction with the user. A "remote save" mechanism is provided to facilitate automatic retrieval of one or more information pages in accordance with one or more specified user conditions, and saving of the retrieved information pages in a repository. The information pages are retrieved and saved without requiring them to be first downloaded to the user's system. Selected ones of these and other features are provided to different embodiments to enhance a user's ability to create and maintain a "scrapbook" of information pages that are of interest to the user.

METHOD AND APPARATUS FOR CREATING AND MAINTAINING A SCRAPBOOK OF INFORMATION PAGES

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to the field of information systems. More specifically, the present invention relates to the creation and maintenance of a scrapbook of information pages.

2. Background Information

With advances in computer, networking and telecommunication technologies, increasingly computers are being networked together. Information have become readily available with a few mouse clicks, from private data servers within an enterprise network to public data servers in public data networks, such as the world wide web (also referred to as web servers or web sites) accessible through the Internet.

Under the prior art, most browsers offer assistance to the user in keeping track the various sites he has visited, bookmarking his favorite sites and so forth. However, as far as saving and collecting a "scrapbook" of his favorite information pages, only the conventional "save" function, which requires more than one mouse click, is available to the user. Additionally, an information page must be downloaded before it can be saved, consuming the valuable and often limited communication bandwidth of the client. Furthermore, no assistance is offered on organizing the saved pages.

Today, many portals (such as Yahoo, Hotmail, and so forth) offer the service of emailing a user a list of annotated links in accordance with a set of preferences indicated by the user. However, these services typically suffer from the disadvantage that the user may choose from a limited set of categories offered by the service (such as news, sports and so forth). Moreover, each list is supplier or site bounded (e.g: a list from MSNBC, a list from Wired Magazine, and so forth). The linked documents or pages must be retrieved from their sources at the time the user wants to read them. Pre-fetching these documents or pages are not possible. A user may save these emails or even organize them by their

senders (MSNBC and so forth), but there is no mechanism to organize them by topics across providers (such as all the sport items from MSNBC and CNN).

Thus, an improved approach to creating and maintain a scrapbook of information page is desired.

SUMMARY OF THE INVENTION

In accordance with a first aspect of the present invention, a "save state" icon having a plurality of manifestations corresponding to a plurality of states associated with saving a copy of a current information page being browsed is automatically displayed for a user. The "save state" icon denotes to the user whether the information page or other variants have been previously saved.

In accordance with another aspect, a "single click save" icon is employed to facilitate saving a copy of the current information page being browsed for a user. The saving is accomplished without requiring further interaction with the user.

In accordance with yet another aspect, a "remote save" mechanism is provided to facilitate automatic retrieval of one or more information pages in accordance with one or more specified user conditions, and saving of the retrieved information pages in a remote repository. The information pages are retrieved and saved without requiring them to be first downloaded to the user's system.

Selected ones of these and other features are provided to different embodiments to enhance a user's ability to create and maintain a scrapbook of information pages that are of interest the user.

BRIEF DESCRIPTION OF DRAWINGS

The present invention will be described by way of exemplary embodiments, but not limitations, illustrated in the accompanying drawings in which like references denote similar elements, and in which:

Figure 1 illustrates an overview of the present invention, in accordance with one embodiment;

Figure 2 illustrates the "save state" icon of the present invention in further detail, in accordance with one embodiment;

Figures 3a-3b illustrate a method of operation including the "save state" icon of the present invention, in accordance with one embodiment;

Figure 4 illustrates the "one click save" icon of the present invention in further detail, in accordance with one embodiment;

Figures 5a-5b illustrate a method of operation including the "one click save" icon of the present invention, in accordance with one embodiment;

Figure 6 illustrates the "remote save" mechanism of the present invention in further detail, in accordance with one embodiment;

Figures 7a-7b illustrate a method of operation including the "remote save" mechanism of the present invention, in accordance with one embodiment;

Figure 8 illustrates an advanced version of the "remote save" mechanism of the present invention in further detail, in accordance with another embodiment;

Figure 9 illustrate a method of operation including the advanced version of the "remote save" mechanism of the present invention, in accordance with another embodiment;

Figure 10 illustrates a computer system suitable for use to practice the present invention, as either a client or a server, in accordance with one embodiment; and

Figure 11 illustrates a network environment suitable for practicing the present invention, in accordance with one embodiment.

DETAILED DESCRIPTION OF THE INVENTION

In the following description, various aspects of the present invention will be described. However, it will be apparent to those skilled in the art that the present invention may be practiced with only some or all aspects of the present invention. For purposes of explanation, specific numbers, materials and configurations are set forth in order to provide a thorough understanding of the present invention. However, it will also be apparent to one skilled in the art that the present invention may be practiced without the specific details. In other instances, well known features are omitted or simplified in order not to obscure the present invention.

Parts of the description will be presented using terms such as graphical user interfaces, command menu, task bars, icons, and so forth, commonly employed by those skilled in the art to convey the substance of their work to others skilled in the art. Parts of the description will be presented in terms of operations performed by a computer system, using terms such as receiving, determining, retrieving, saving, and so forth. As well understood by those skilled in the art, these quantities and operations take the form of electrical, magnetic, or optical signals capable of being stored, transferred, combined, and otherwise manipulated through mechanical and electrical components of a digital system; and the term digital system include general purpose as well as special purpose data processing machines, systems, and the like, that are standalone, adjunct or embedded.

Various operations will be described as multiple discrete steps performed in turn in a manner that is most helpful in understanding the present invention, however, the order of description should not be construed as to imply that these operations are necessarily order dependent, in particular, the order the steps are presented. Furthermore, the phrase "in one embodiment" will be used repeatedly, however the phrase does not necessarily refer to the same embodiment, although it may.

Referring now to **Figure 1**, wherein a diagram illustrating an overview of the present invention in accordance with one embodiment is shown. As illustrated, in accordance with the present invention, client computer 100 is provided with enhanced browser 102 incorporated with the teachings of the present invention. More specifically, browser 102 is equipped with an enhanced graphical user interface that includes, in addition to conventional features (such as address field 110 to facilitate entry of e.g. a uniform resource locator (URL)), a number of novel features for assisting a user in creating and maintaining a scrapbook of information pages. For the illustrated embodiment, these features include "save state" icon 104, "single click save" icon 106, and "remote save" mechanism 108. Briefly, "save state" icon 104 may be manifested in one of a number of ways corresponding to a number of states associated with saving a copy of a current information page being browsed. The "save state" icon denotes to the user whether the information page or other variants have been previously

saved. "Single click" icon **106** enables the user to save a copy of the current information page being browsed on client **100** with a single click of the icon. Unlike the prior art "save" command, further interaction with the user is not required. "Remote save" mechanism **108** automatically retrieves one or more information pages in accordance with one or more user specified criteria, and saves the retrieved information pages in a remote repository. The information pages are retrieved and saved without requiring them to be first downloaded to the user's system.

Figure 2 illustrates the various ways "save state" icon **104** may be manifested, in accordance with one embodiment. As illustrated, "save state" icon **104** may be manifested in at least one of the three ways denoting one of three states associated with saving a current information page being browsed. Under the first way, "save state" icon **104** is presented in the form of a graphical image of a red scrapbook, denoting that neither the current information page being browsed nor any of its variants have been previously saved. Under the second way, "save state" icon **104** is presented in the form of a graphical image of a yellow scrapbook, denoting that at least one earlier version of the current information page being browsed has been previously saved. Under the third way, "save state" icon **104** is presented in the form of a graphical image of a green scrapbook, denoting that the current information page being browsed has been previously saved.

For the illustrated embodiment, "save state" icon **104** is automatically displayed, concurrent with the display of the current information page. The "save state" is dynamically determined. In alternate embodiments, more or less states, more or less or different colors, as well as other graphical or non-graphical representations may be employed instead. The display of icon **104** may be made on-demand as opposed to automatic also.

Figures 3a-3b illustrate a method of operation including the employment of "save state" icon **104**, in accordance with one embodiment. As illustrated in **Fig. 3a**, at **302**, an information page is received by browser **102**. In response, at **304**, browser **102** automatically queries a designated repository manager on the "save state" of the information page. Browser **102** includes as part of the query,

the URL as well as the version information for the information page. At 306, browser 102 receives the “save state” determination from repository manager. At 308, browser 102 concurrently displays an appropriate manifestation of “save state” icon 104, depending on the response of the queried repository manager.

For the illustrated embodiment, the repository manager is disposed remotely managing a remote repository. In alternate embodiments, the repository manager may be disposed locally managing a local repository instead. In either case, the designation of the repository manager may be specified in any one of a number of known approaches to setting operating parameters for browser 102.

As illustrated in Fig. 3b, at 312, the repository manager receives the above described query from browser 102. At 314, in response to the query, the repository manager determines if the information page or at least one of its variants has been previously saved in its repository. For the illustrated embodiment, the repository manager maintains the URL and the associated version information for each information page saved. Accordingly, it makes the “save state” determination by comparing the URL and version information included in the query with the URL and version information it maintains. At 316, the repository manager generates a reply for browser 102 informing browser 102 the result of its determination.

Thus, it can be seen a user may be advantageously briefed in real time, whether an information page being browsed or its variants have been previously saved.

Figure 4 illustrates “one click save” icon 106, in accordance with one embodiment. As illustrated, “one click save” icon 106 is presented in the form of a graphical image of a pen writing into a scrapbook. For the illustrated embodiment, “one click save” icon 106 is displayed as an integral part of a “task bar” of browser 102. The inclusion is automatic unless a user has configured browser 102 to exclude the “one click save” icon 106 from the “task bar”. In alternate embodiments, other display locations, as well as other graphical or non-graphical representations may be employed instead.

Figures 5a-5b illustrate a method of operation including the employment of “one click save” icon 106, in accordance with one embodiment. As illustrated in **Fig. 5a**, at 502, at program start-up, unless configured to exclude, browser 102 renders the initial display window with a task bar having “one click save” icon 106. At 504, browser 102 awaits user inputs. At 506, upon receipt of a user input, browser 102 determines if the user has selected “one click save” icon 106. If it’s one of the conventional user inputs, browser 102 handles the conventional user input as in the prior art, 508. However, if the user has selected “one click save” icon 106, browser 102 notifies the designated repository manager, 510, to cause a copy of the current information page to be saved into the repository managed by the designated repository manager. In either case, upon processing the conventional user input, or causing a copy of the current information page to be saved, browser 102 returns to 504 to await further user inputs.

For the illustrated embodiment, the repository manager is disposed remotely managing a remote repository. Browser 102 includes with the notification, the URL for the information page. Browser 102 also includes a client identifier and the current date and time. The client identifier may be pre-established in any one of a number of approaches known in the art, including but not limited to how free email user identifiers are created. In alternate embodiments where the designated repository manager is local instead, browser 102 further includes one or more pointers to the local memory locations where the current information page can be found instead.

As illustrated in **Fig. 5b**, at 512, the repository manager receives the notice to save a copy of the current information page being browsed on client 100. At 514, in response to the notification, the repository manager retrieves a copy of the current information page (either from its source using the provided URL or from the local memory using the provided pointers), and saves the copy into its managed repository. As alluded to earlier, the repository manager creates a record and records the URL and the associated version information of the information page saved. For the illustrated embodiment, the repository manager also records the date and time, as well as the client identifier information.

In an alternate embodiment, the repository manager saves each information page in delta form employing a universal unique identifier (UUID). That is, each information page is given an UUID, a first of a series of related information pages is stored in its entirety as a base information page, and only the delta contents are stored for all subsequent variants of the information page. Storing source and object files in the above described manner is the subject of co-pending U.S. Patent Application, serial number 09/177,443, filed October 21, 1998, and titled User Centric Source Control.

Thus, it can be seen the current information page can be advantageously saved with a single mouse click, to further enhance a user's usage experience of browser 102.

Figure 6 illustrates "remote save" mechanism 108, in accordance with one embodiment. As illustrated, "remote save" mechanism 108 includes "remote save" command 602 and its associated pop-up dialog 604. For the illustrated embodiment, "remote save" command 602 is incorporated as part of the expandable command menu 606 associated with "scrapbook" command 608, which itself is incorporated as part of the drop-down menu 610 associated with the "File" command 612 of built-in command menu 614. Pop-up dialog 604 is presented in response to the user's selection of "remote save" command 602, which is presented in response to the user's selection of "scrapbook" command 608 (presented in response to the user's section of the "File" command 612). Pop-up dialog 604 includes URL field 622 and level limit field 624 for the user to enter a URL and a level limit, search criteria field 626 and page limit field 628 for the user to enter one or more search criteria and a page limit instead. Pop-up dialog 604 further includes "submit" button 630 to submit the "remote save" command. A URL entered into URL field 622 denotes the first information page to be retrieved and saved. A level limit entered into level limit field 624 denotes how many additional linked information pages are also to be retrieved and saved (in terms of the maximum depth levels the corresponding links may be located). Search criteria entered into search criteria field 626 denote the types of information pages to be retrieved and saved. A page limit entered into page limit field 628 denotes how many of these information pages are to be retrieved and

saved. The inclusion of these commands as an integral part of built-in command menu 614 is automatic unless a user has configured browser 102 to exclude “remove save” command 602 from expansion menu 606, or “scrapbook” command 608 from drop-down menu 610, or “File” command 612 from built-in command menu 614. In alternate embodiments, other forms of invocation, including but not limited to iconic representation in the task bar, may be employed instead.

Figures 7a-7b illustrate a method of operation including the employment of “remote save” mechanism 108, in accordance with one embodiment. As illustrated in **Fig. 7a**, at 702, at program start-up, unless configured to exclude or a local repository manager is designated, browser 102 renders the initial display window with built-in command menu 614 incorporated with “File” command 610 having “scrapbook” command 606, and ultimately “remote save” command 602. At 704, browser 102 awaits user inputs. At 706, upon receipt of a user input, browser 102 determines the nature of the user input. If it’s one of the conventional user inputs, browser 102 handles the conventional user input as in the prior art, 708. However, if the user has selected “remote save” command 602, browser 102 responds with pop-up menu 604, 710. If the user has made entries into any one of the editable fields 622-628, browser 102 allows the entries to be “echoed” and displayed, 712. If the user has selected “submit” button 630, browser 102 notifies the designated repository manager, 714, to cause the specified information page or pages to be retrieved and saved into the remote repository managed by the remote repository manager. The information page or pages are retrieved and saved without requiring them to be first downloaded onto client 100. Upon processing the user input, including causing the specified information page(s) to be retrieved and saved in the described manner, browser 102 returns to 704 to await further user inputs.

For the illustrated embodiment, browser 102 includes with the notification the specified URL and level limit or the specified search criteria and page limit. Similar to saving a current information page, browser 102 also includes a client identifier and the current date and time.

As illustrated in **Fig. 7b**, at **722**, the repository manager receives the notice to save the specified information page or pages. At **724**, the repository manager determines whether an URL (with level limit) or search criteria (with page limit) is included with the notification. If an URL (with level limit) is included with the notification, the repository manager retrieves the specified information page or pages, recursively walk through the links contained in each information page, up to the maximum depth specified by the level limit, **726**. If search criteria (with page limit) are included with the notification, the repository manager retrieves the specified information page or pages (invoking any one of a number of search engines known in the art), limiting the number of pages returned to the page limit specified, **728**. In like manner as the single page save, the repository manager creates a record for each page, and records the URL and the associated version information of the information page saved. For the illustrated embodiment, the repository manager also records for each page, the date and time, as well as the client identifier information.

Thus, it can be seen information pages can be advantageously pre-saved into a remote repository to reduce access time at viewing time, to further enhance a user's usage experience of browser **102**.

Figure 8 illustrates an advanced version of "remote save" mechanism **108**, in accordance with another embodiment. Similar to the earlier described embodiment, the advanced version of "remote save" mechanism **108** also includes a pop-up dialog, **804**. In one embodiment, pop-up dialog **804** is displayed in response to an "advance" button, additionally provided to the earlier described pop-up dialog **604** (not shown). In alternate embodiments, pop-up dialog **804** may simply replace pop-up dialog **604**, such that it is directly invoked through "remote save" command **602** of the expandable command menu **606** associated with "scrapbook" command **608**. Regardless of the method of invocation, pop-up dialog, **804** is invocable only if browser **102** has not been configured to exclude the "remove save" mechanism.

As illustrated, in addition to URL field **822**, level limit field **824**, search criteria field **826**, page limit field **828**, and "submit" button **830**, as described earlier for the first embodiment, pop-up dialog **804** further includes search

script(s) field 832 and "edit" button 834. URL field 822, level limit field 824, search criteria field 826, and page limit field 828 all serve the same functions and handled in the same manner as described earlier. Search script(s) field 832 is used to facilitate entry of one or more search script names. Each named search script contains a set of search criteria. The search scripts enable a user to create different "sections" for his scrapbook , and pre-associate a set of search criteria for each of these sections. "Edit" button 834 is used to invoke "edit" pop-up dialog 840 for editing the search criteria of the search scripts. "Submit" button 830 also serves the same function as earlier described, except it is also used to indirectly submit one or more sets of search criteria through the submission of one or more search script names.

Thus, the operating logic associated with pop-up dialog 804 is substantially the same as the operating logic early described referencing Fig. 7a. That is, in addition to the functions earlier described, the operating logic associated with pop-up dialog 804 also causes pop-up dialog 840 to be displayed in response to the selection of "edit" button 834, and search criteria contained in the entered search scripts to be successively submitted to the remote repository manager in response to the selection of "submit" button 830 (if one or more search script names are entered in field 832).

Still referring to Fig. 8, "edit" pop-up dialog 840 includes search script field 842, search criteria field 846, page limit field 848, search script list 852, "save" button 850, and "browse" button 844. Search script field 842 is used to facilitate entry/display of the name of the current search script being edited. The name may have been entered through pop-up dialog 804 prior to the selection of "edit" button 834. Search criteria field 846 and page limit field 848 serve the same functions as the earlier described search criteria and page limit fields of pop-up dialog 604. Search script list 852 lists search scripts previously created and saved. The list is also used to facilitate selection of one of the listed search script to be the current search script for editing. "Save" button 850 causes the current search script to be saved, and "browse" button 844 causes search script list 852 to be displayed. For the illustrated embodiment, search script list 852 is initially hidden, and only displayed responsive to the selection "browse" button 844. In

alternate embodiments, list 852 may be unconditionally displayed, without the employment of “browse” button 844.

Figure 9 illustrates the operating logic associated with “edit” pop-up dialog 840 for a method of operation including the employment of the advanced version of “remote save” mechanism 108, in accordance with one embodiment. As illustrated at 902, browser 102 renders pop-up dialog 840. At 904, browser 102 awaits user inputs. At 906, upon receipt of a user input, browser 102 determines the nature of the user input. If it’s one of the conventional user inputs, browser 102 handles the conventional user input as in the prior art, 908. However, if the user has made entries into any one of the editable fields 842-848, browser 102 allows the entries to be “echoed” and displayed, 910. If the user has selected “save” button 850, browser 102 saves the current search script, 912. If the user has selected “browse” button 844, browser 102 causes search script list 852 to be displayed, 914. Upon processing the user input, browser 102 returns to 904 to await further user inputs.

Thus, it can be seen information pages can be advantageously organized into sections of the scrapbook, and pre-saved into a remote repository, to further enhance a user’s usage experience of browser 102.

While for ease of understanding, the above description refers to only one level of organization, i.e. sections of the scrapbook, as those skilled in the art will appreciate from the foregoing description, the search criteria association aspect of the present invention may be practiced with any number of the organization levels, e.g. volumes, chapters, sections, sub-sections and so-forth.

Returning briefly to **Fig. 1**, in addition to “remote save” 108, the “scrapbook” function of the present invention may also include other functions such as “save”, “save as”, “retrieve”, “organize”, “find” and so forth. “Save” and “save as” may be used to save information pages as prior art “save” and “save as” commands for saving files or emails. “Retrieve” may be used to retrieve a previously saved information page as prior art “open” commands for “opening a saved file or email. “Organize” may be used to organize information pages as prior art “move” commands for organizing files or emails. “Find” may be used to find information pages as prior art “find” commands for finding files or emails.

Each of these may be implemented in like manners as their prior art counterparts in the file subsystem or email context.

Referring now to **Figure 10**, wherein a computer system suitable for use as either a client or a server to practice the present invention is shown. As shown, computer system **1000** includes processor **1002**, ROM **1003**, and system memory **1004** coupled to each other via "bus" **1006**. Coupled also to "bus" **1006** are non-volatile mass storage **1008**, display device **1010**, cursor control device **1012** and communication interface **1014**.

Except for the teachings of the present invention incorporated, each of these elements is intended to represent a wide range of these devices known in the art, and perform its conventional functions. For example, processor **1002** may be a processor of the Pentium® family available from Intel Corporation of Santa Clara, CA, or a processor of the PowerPC® family available from IBM of Armonk, NY. Processor **1002** performs its conventional function of executing programming instructions, including those implementing the teachings of the present invention.

ROM **1003** may be EEPROM, Flash and the like, and memory **1004** may be SDRAM, DRAM and the like, from semiconductor manufacturers such as Micron Technology of Boise, Idaho. Bus **1006** may be a single bus or a multiple bus implementation. In other words, bus **1006** may include multiple buses of identical or different kinds properly bridged, such as Local Bus, VESA, ISA, EISA, PCI and the like.

Mass storage **1008** may be disk drives or CDROMs from manufacturers such as Seagate Technology of Santa Cruz of CA, and the like. Typically, mass storage **1008** includes the permanent copy of browser **102**, the repository manager and its managed repository, depending on whether computer system **1000** is used as a client or a server, and where the repository is located. The permanent copy of the browser and the repository manager may be installed in the factory, or in the field. For field installation, the permanent copy may be distributed using article of manufacture with recordable medium such as diskettes, CDROM, DVD and the like, or downloaded from a distribution server

through a data network (such as the Internet). The distribution server may be a server of the OEM, i.e. the software developer, or a server of a publisher.

Display device **1010** may be monitors of any types from manufacturers such as Viewsonic of City, State. Cursor control **1012** may be a mouse, a track ball and the like, from manufacturers such as Logitech of Milpitas, CA. Communication interface **1014** may be a modem interface, an ISDN adapter, a DSL interface, an Ethernet or Token ring network interface and the like, from manufacturers such as 3COM of San Jose, CA.

Depending on whether computer system **1000** is used as a client or a server, one or more processor **1002** of less or more capability are employed. Likewise, smaller or larger system memory **1004** and mass storage **1008**, as well as lower or higher performance "bus" **1006** and communication interface **1014** are employed.

As those skilled in the art will also appreciate, from the description the follow, the present invention may also be practiced without some of the enumerated elements, or with additional elements, such as graphics accelerators, audio and video add-on cards, and so forth.

Figure 11 illustrates a network environment for practicing the present invention, in accordance with one embodiment. As illustrated, network **1100** includes client **1102**, Internet Service Provider (ISP) **1104**, portal **1108**, and web servers **1110**, coupled to each other through Internet **1106** as shown. Client **1102** is incorporated with the teachings of the present invention, i.e. enhanced browser **102** (with the above described scrapbook related functions), and the necessary underlying hardware and operating system functions. At least one of ISP **1104** or portal **1108** is incorporated with the complementary aspects of the teachings of the present invention, i.e. repository manager and the repository it manages for client **1102**. Except for the teachings of the present invention, client **1102**, ISP **1104**, portal **1108**, and web servers **1110**, are intended to represent a broad range of these elements known in the art. While for ease of understanding, only one each for client **1102**, ISP **1104** and portal **1108** is shown, as those skilled in the art will readily appreciate from the earlier description, the

present invention may be practiced one or more client 1102, ISP 1104 and portal 1108.

Thus, a method and an apparatus for creating and maintaining a scrapbook of information pages have been described.

While the present invention has been described in terms of the above illustrated embodiments, those skilled in the art will recognize that the invention is not limited to the embodiments described. The present invention can be practiced with modification and alteration within the spirit and scope of the appended claims. The description is thus to be regarded as illustrative instead of restrictive on the present invention.

CLAIMS

What is claimed is:

1. A graphical user interface comprising:
 - a field to receive entry of a uniform resource locator for an information page to be retrieved; and
 - a first icon having a plurality of manifestations corresponding to a plurality of states associated with saving a copy of a current information page being browsed.
2. The graphical interface of claim 1, wherein said plurality of manifestations of the first icon comprise at least one of the manifestations selected from a group consisting of a first manifestation denoting a copy of the current information page not having been previously saved, a second manifestation denoting at least a copy that is of a different version of the current information page having been previously saved, and a third manifestation denoting a copy of the current information page having been previously saved.
3. The graphical interface of claim 2, wherein
 - the first manifestation of the first icon comprises a graphical image of a red scrapbook;
 - the second manifestation of the first icon comprises a graphical image of a yellow scrapbook; and
 - the third manifestation of the first icon comprises a graphical image of a red scrapbook;
4. The graphical interface of claim 1, wherein the first icon is automatically displayed concurrent with the display of the current information page being browsed.
5. The graphical interface of claim 1, wherein the graphical interface further comprises a second icon to facilitate automatic saving of a copy of the current

information page being browsed, into a repository, responsive to a user's selection of the icon, without requiring further interaction with the user.

6. The graphical interface of claim 1, wherein the graphical interface further comprises a mechanism to facilitate automatic retrieval of one or more information pages in accordance with one or more specified conditions, and saving the retrieved information page(s) into a remote repository, without first downloading the information page(s) to a local host of the graphical interface.

7. The graphical interface of claim 6, wherein the graphical interface further comprises one or more mechanisms to facilitate specification of said one or more conditions.

8. The graphical interface of claim 1, wherein the graphical interface further comprises one or more mechanisms to facilitate specification of a condition for an organizational unit of information pages.

9. A graphical user interface comprising:
a field to receive entry of a uniform resource locator of an information page; and
a first icon to facilitate automatic saving of a copy of a current information page being browsed, into a repository, responsive to a user's selection of the icon, without requiring further interaction with the user.

10. The graphical interface of claim 9, wherein the graphical interface further comprises a mechanism to facilitate automatic retrieval of one or more information pages in accordance with one or more specified conditions, and saving the retrieved information pages into a remote repository, without first downloading the information pages to a local host of the graphical interface.

11. A graphical interface comprising
 - a field to receive entry of a uniform resource locator of an information page; and
 - a mechanism to facilitate automatic retrieval of one or more information pages in accordance with one or more specified conditions, and saving the retrieved information page(s) into a remote repository, without first downloading the information page(s) to a local host of the graphical interface.
12. A graphical interface comprising
 - a first icon having a plurality of manifestations corresponding to a plurality of states associated with saving a copy of a current information page being browsed; and
 - a second icon to facilitate automatic saving of a copy of the current information page being browsed, into a repository, responsive to a user's selection of the icon, without requiring further interaction with the user.
13. The graphical interface of claim 12, wherein the graphical interface further comprises a mechanism to facilitate automatic retrieval of one or more information pages in accordance with one or more specified conditions, and saving the retrieved information pages into a remote repository, without first downloading the information pages to a local host of the graphical interface.
14. A graphical interface comprising
 - a first icon having a plurality of manifestations corresponding to a plurality of states associated with saving a copy of a current information page being browsed; and
 - a mechanism to facilitate automatic retrieval of one or more information pages in accordance with one or more specified conditions, and saving the retrieved information pages into a remote repository, without first downloading the information pages to a local host of the graphical interface.

15. A graphical interface comprising
 - a first icon to facilitate automatic saving of a current information page being browsed, into a repository, responsive to a user's selection of the icon, without requiring further interaction with the user; and
 - a mechanism to facilitate automatic retrieval of one or more pages of information in accordance with one or more specified conditions, and saving the retrieved information page(s) into a remote repository, without first downloading the information page(s) to a local host of the graphical interface.
16. In a client apparatus, a method comprising:
 - displaying a first icon in a selected one of a plurality of manifestations corresponding to a plurality of states associated with saving a copy of a current information page being browsed, to inform a user of the current state;
 - displaying a second icon associated with saving a copy of the current information being browsed; and
 - automatically causing a copy of the current information page being browsed to be saved into a repository, responsive to the user's selection of the icon, without requiring further interaction with the user.
17. The method of claim 16, wherein said plurality of manifestations of the first icon comprise at least one of the manifestations selected from a group consisting of a first manifestation denoting a copy of the current information page not having been previously saved, a second manifestation denoting at least a copy that is of a different version of the current information page having been previously saved, and a third manifestation denoting a copy of the current information page having been previously saved.
18. The method of claim 17, wherein
 - the first manifestation of the first icon comprises a graphical image of a red scrapbook;
 - the second manifestation of the first icon comprises a graphical image of a yellow scrapbook; and

the third manifestation of the first icon comprises a graphical image of a red scrapbook;

19. The method of claim 16, wherein the first icon is automatically displayed concurrent with the display of the current information page being browsed.

20. The method of claim 16, wherein said repository is a selected one from the group consisting of a local repository and a remote repository.

21. The method of claim 16, wherein said method further comprises responsive to the user's instruction, automatically causing one or more information pages to be retrieved in accordance with one or more specified conditions, and saved into a remote repository, without requiring the information pages to be first downloaded into the apparatus.

22. The method of claim 21, wherein the method further comprises facilitating the user in specifying said one or more conditions.

23. The method of claim 21, wherein the method further comprises facilitating the user in specifying a condition for an organizational unit of information pages.

24. In an apparatus, a method comprising:

responsive to a first user instruction, automatically saving a copy of a current information page being browsed, into a remote repository, without requiring further interaction with the user; and

responsive to a second user instruction, automatically retrieving one or more information pages in accordance with one or more specified conditions, and saving the retrieved information pages into the remote repository, without first downloading the information pages to a local host of the user.

25. The method of claim 24, wherein the method further comprises facilitating the user in specifying said one or more conditions.

26. The method of claim 24, wherein the method further comprises facilitating the user in specifying a condition for an organizational unit of information pages.
27. In a server computer, a method comprising:
 - receiving from a remote client, a uniform resource locator identifying a current information page being browsed at the remote client;
 - determining a current state associated with saving a copy of the current information page in a repository; and
 - informing the remote client the determined current state to facilitate concurrent display of a first icon with the current information page on the client, denoting for a user of the remote client the current state associated with saving a copy of the current information page in the repository.
28. The method of claim 27, wherein the method further comprises receiving an instruction from the remote client; and in response, causing a copy of the current information page to be retrieved and saved into the repository.
29. The method of claim 27, wherein the method further comprises receiving an instruction including one or more conditions from the remote client; and in response, causing a copy each for one or more information pages to be retrieved in accordance with the one or more conditions, and saved into the repository, without requiring the information page(s) to be first downloaded to the remote client.
30. In a server computer, a method comprising:
 - receiving an instruction include a uniform resource locator for a current information page being browsed on remote client from the remote client; and
 - in response, causing a copy of the current information page to be retrieved and saved into a repository.

31. The method of claim 30, wherein the method further comprises receiving an instruction including one or more conditions from the remote client; and in response, causing a copy each for one or more information pages to be retrieved in accordance with the one or more conditions, and saved into the repository, without requiring the information page(s) to be first downloaded to the remote client.
32. In a server computer, a method comprising: receiving an instruction including one or more conditions from a remote client; and in response, causing a copy each for one or more information pages to be retrieved in accordance with the one or more conditions, and saved into a repository, without requiring the information page(s) to be first downloaded to the remote client.
33. An apparatus comprising:
 - a processor; and
 - a storage medium having stored therein a plurality of programming instructions to be executed by the processor, wherein when executed, the programming instructions cause
 - a first icon in a selected one of a plurality of manifestations corresponding to a plurality of states associated with saving a copy of a current information page being browsed to be displayed, to inform a user of the current state,
 - a second icon associated with saving a copy of the current information being browsed to be displayed, and
 - in response to the user's selection of the icon, a copy of the current information page being browsed to be saved into a repository, without requiring further interaction with the user.

34. The apparatus of claim 33, wherein the programming instructions, in response to the user's instruction, further cause one or more information pages to be retrieved in accordance with one or more specified conditions, and saved into a remote repository, without requiring the information pages to be first downloaded into the apparatus.

35. An apparatus comprising:

a processor; and

a storage medium having stored therein a plurality of programming instructions to be executed by the processor, wherein when executed, the programming instructions

in response to a first user instruction, cause a copy of a current information page being browsed to be automatically saved into a remote repository, without requiring further interaction with the user, and

in response to a second user instruction, cause one or more information pages to be retrieved in accordance with one or more specified conditions, and saved into the remote repository, without first downloading the information pages to the apparatus.

36. A computer system comprising:

a processor; and

a storage medium having stored therein a plurality of programming instructions to be executed by the processor, wherein when executed, the programming instructions

receive from a remote client, a uniform resource locator identifying a current information page being browsed at the remote client,

determine a current state associated with saving a copy of the current information page in a repository; and

inform the remote client the determined current state to facilitate concurrent display of a first icon with the current information page on the client, denoting for a user of the remote client the current state associated with saving a copy of the current information page in the repository.

37. The computer system of claim 36, wherein when executed, the programming instructions further receive an instruction from the remote client; and in response, cause a copy of the current information page to be retrieved and saved into the repository.

38. The computer system of claim 36, wherein when executed, the programming instructions further receive an instruction including one or more conditions from the remote client, and in response, cause a copy each for one or more information pages to be retrieved in accordance with the one or more conditions, and saved into the repository, without requiring the information page(s) to be first downloaded to the remote client.

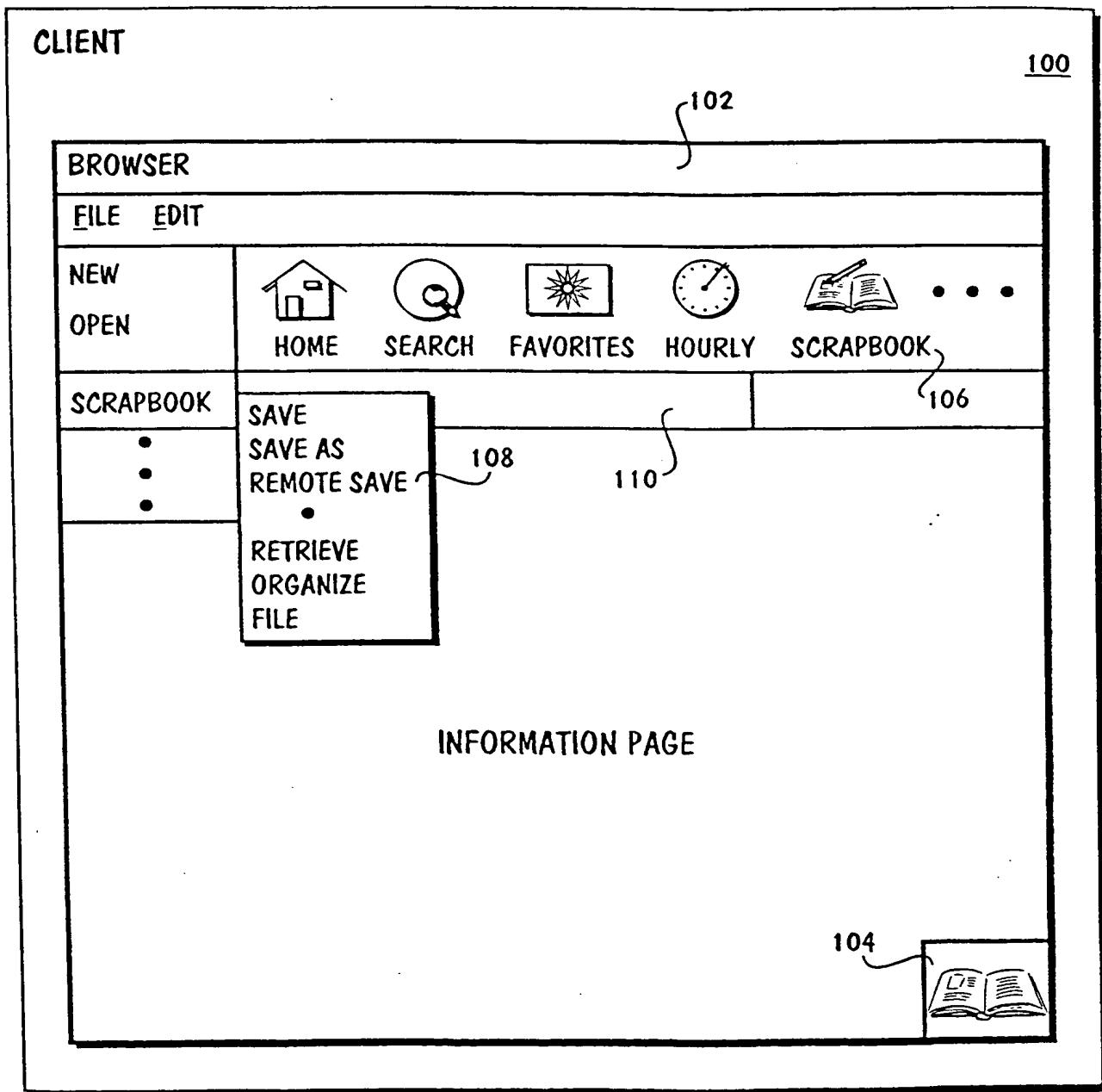
39. A computer system comprising:

- a processor; and
- a storage medium having stored therein a plurality of programming instructions to be executed by the processor, wherein when executed, the programming instructions
 - receive an instruction including a uniform resource locator for a current information page being browsed on a remote client from the remote client; and
 - in response, cause a copy of the current information page to be retrieved and saved into a repository.

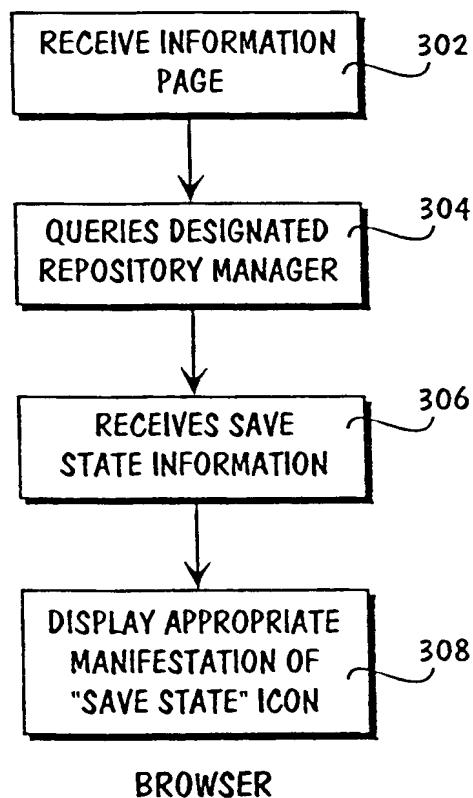
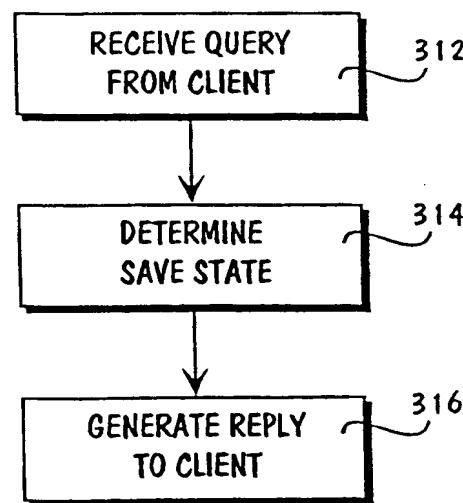
40. The computer system of claim 39, wherein when executed, the programming instructions further receive an instruction including one or more conditions from the remote client, and in response, cause a copy each for one or more information pages to be retrieved in accordance with the one or more conditions, and saved into the repository, without requiring the information page(s) to be first downloaded to the remote client.

41. A computer system comprising:
 - a processor; and
 - a storage medium having stored therein a plurality of programming instructions to be executed by the processor, wherein when executed, the programming instructions further
 - receive an instruction including one or more conditions from a remote client; and
 - in response, causing a copy each for one or more information pages to be retrieved in accordance with the one or more conditions, and saved into a repository, without requiring the information page(s) to be first downloaded to the remote client.

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*FIG. 2**FIG. 3a*

RESPOSITORY MANAGER

FIG. 3b

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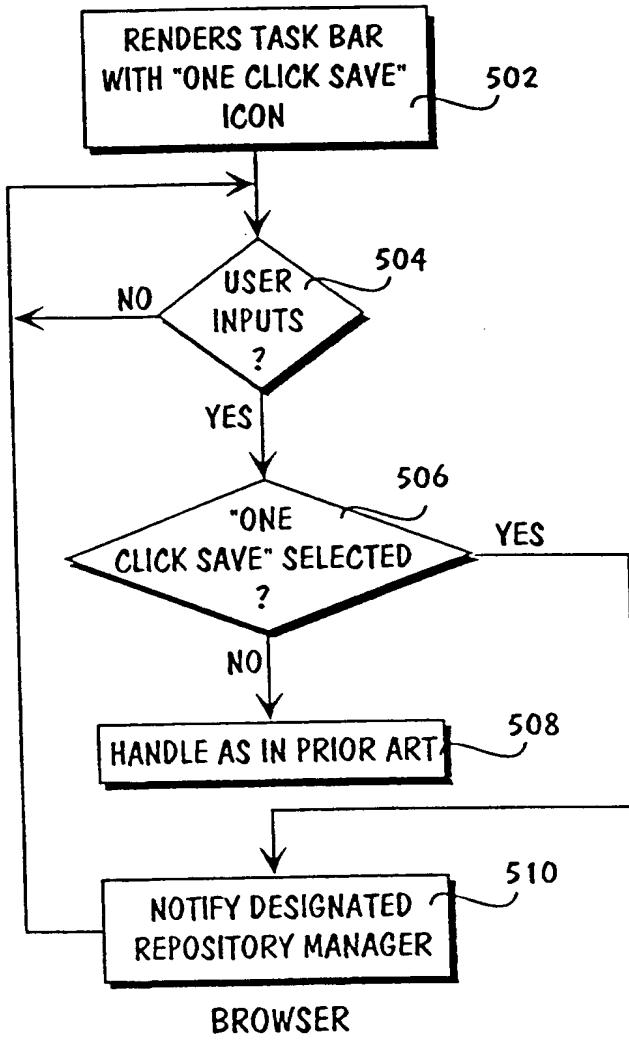
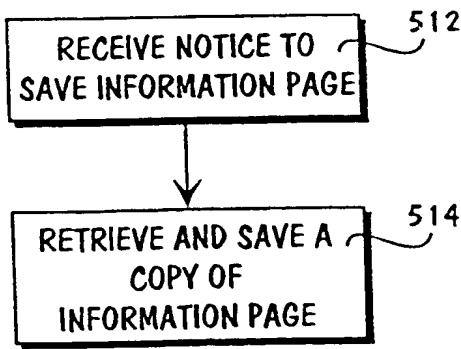


FIG. 5a



FIG. 4



REPOSITORY MANAGER

FIG. 5b

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FILE	<input type="text" value="622"/> URL	<input type="text" value="624"/> LEVEL LIMIT
OR		
SEARCH	<input type="text" value="626"/> CRITERIA	<input type="text" value="628"/> PAGE LIMIT
	<input type="button" value="SUBMIT"/> 630	

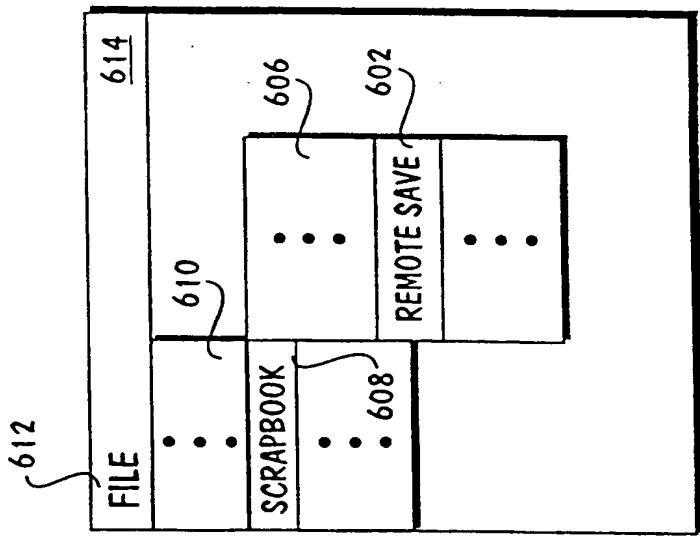
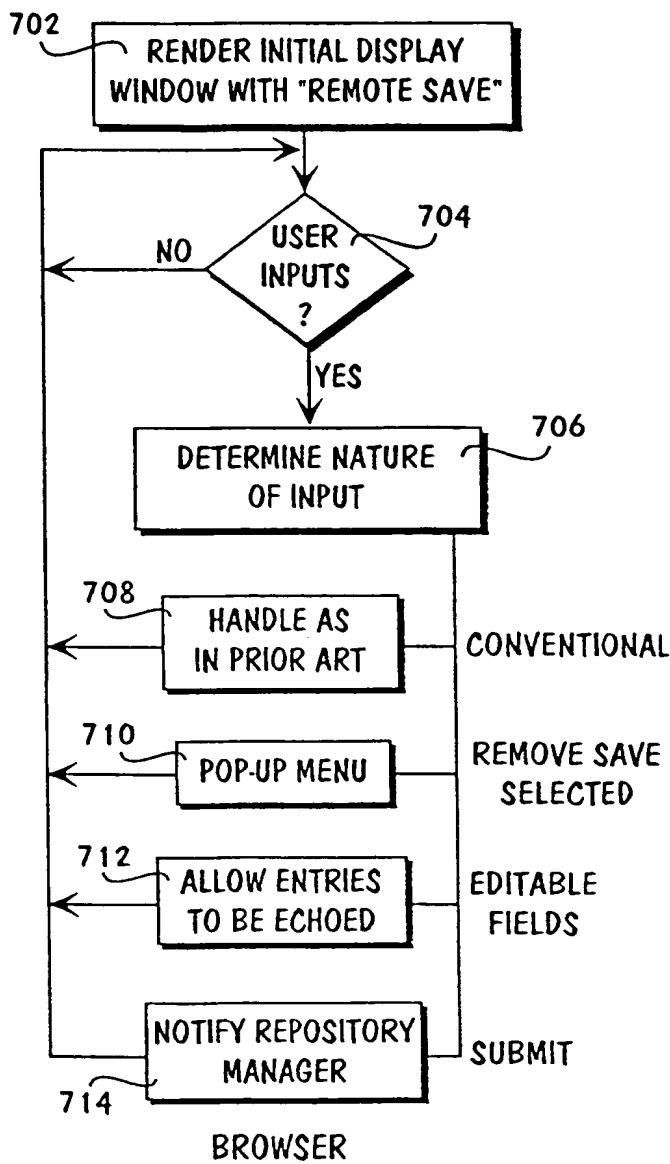
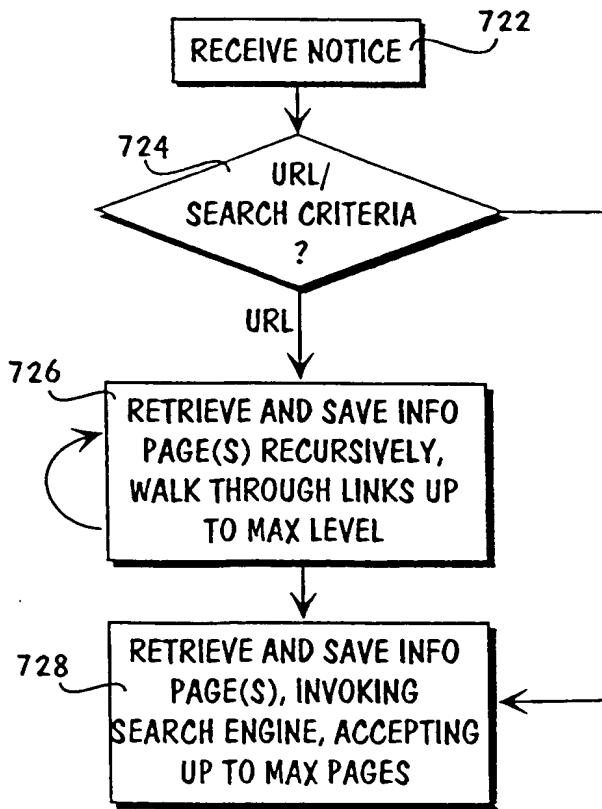


FIG. 6

*FIG. 7b*

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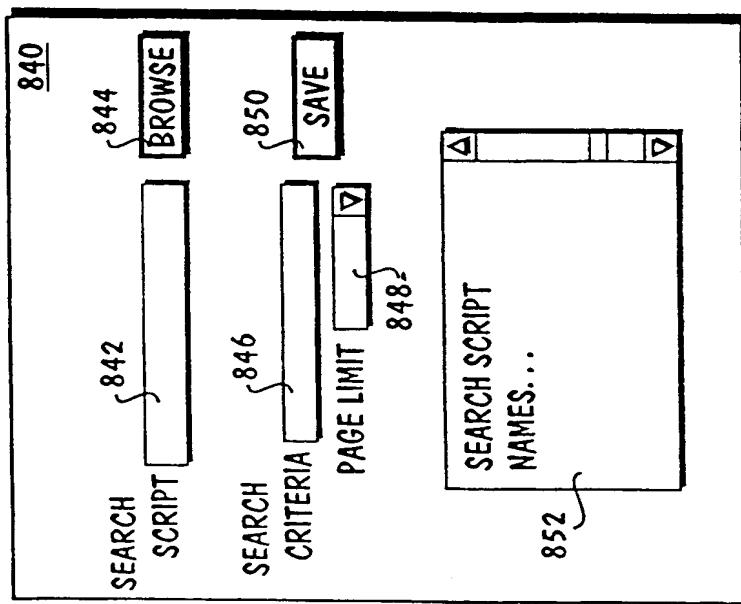
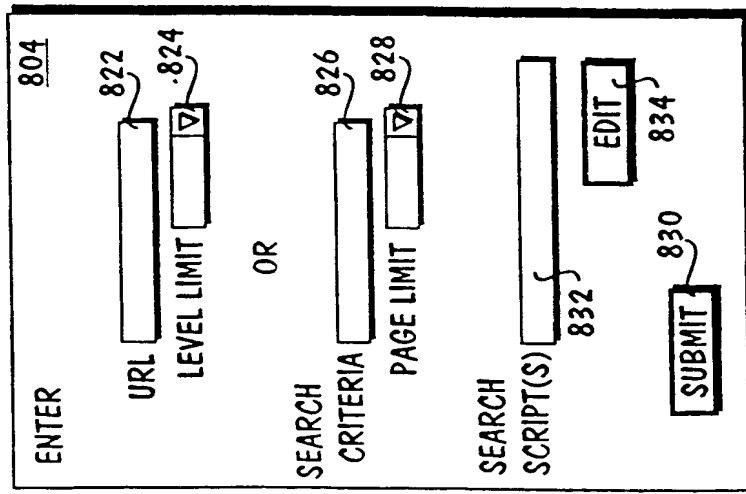


FIG. 8



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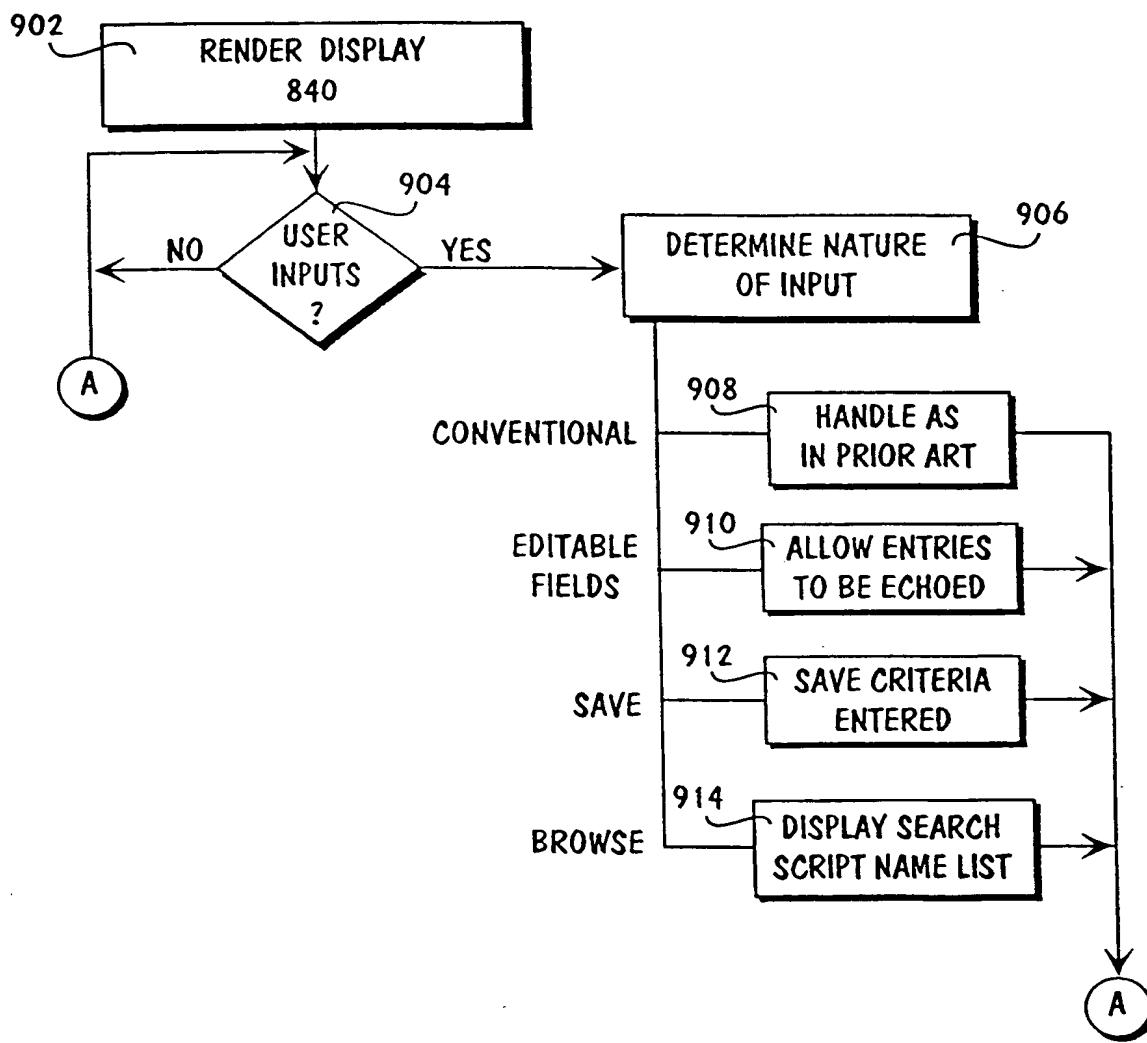
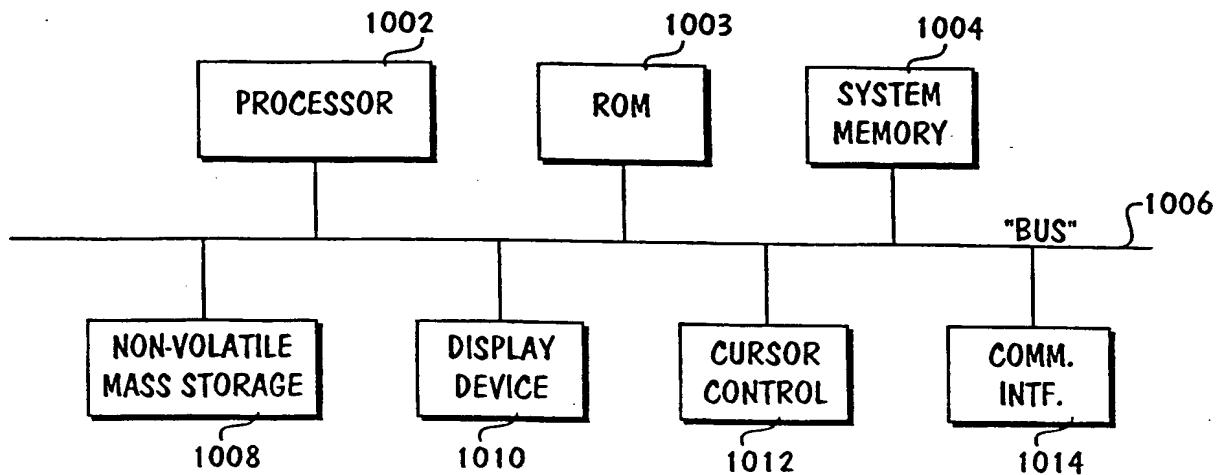
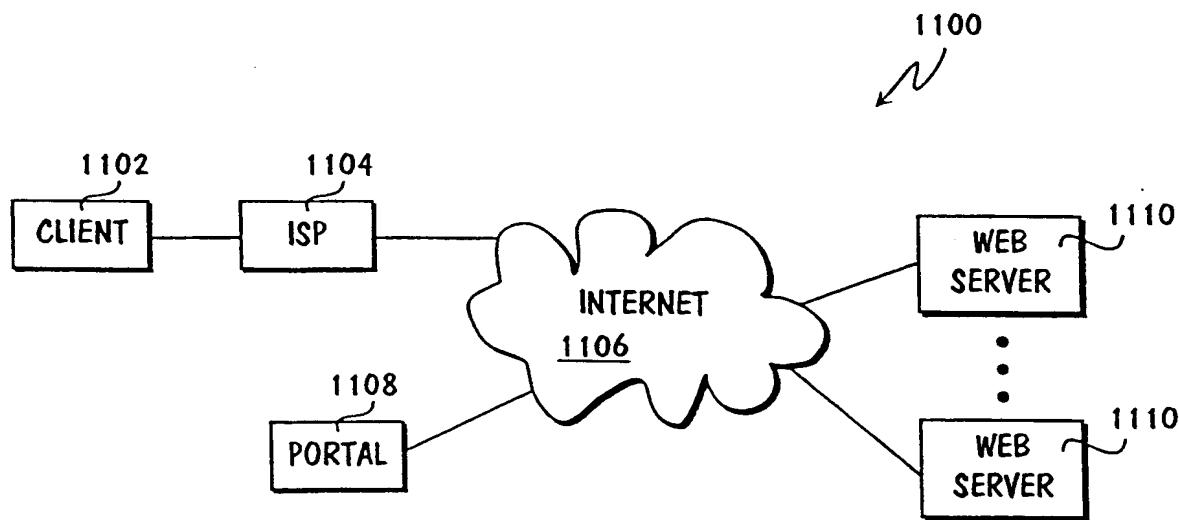


FIG. 9

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*FIG. 10**FIG. 11*

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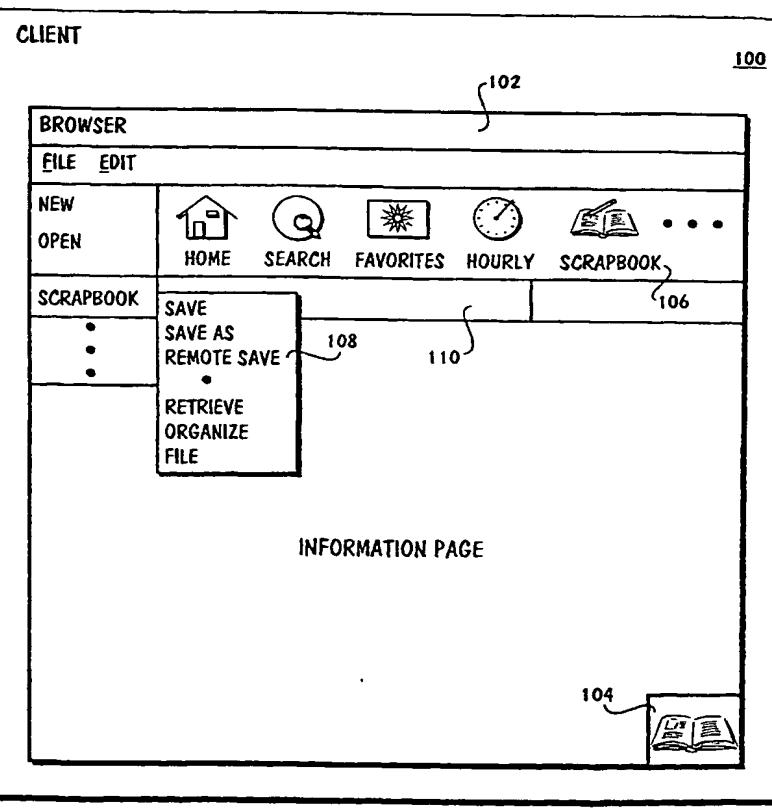
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31 August 1999 (31.08.1999) US

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[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR CREATING AND MAINTAINING A SCRAPBOOK OF INFORMATION PAGES



(57) Abstract: A "state" icon having a plurality of manifestations corresponding to a plurality of states associated with saving a copy of a current information page being browsed is automatically displaced for a user. The "state" icon denotes to the user whether the information page or other variants have been previously saved. A "single click" icon is employed to facilitate saving a copy of the current information page being browsed for a user. The saving is accomplished without requiring further interaction with the user. A "remote save" mechanism is provided to facilitate automatic retrieval of one or more information pages in accordance with one or more specified user conditions, and saving of the retrieved information pages in a repository. The information pages are retrieved and saved without requiring them to be first downloaded to the user's system. Selected ones of these and other features are provided to different embodiments to enhance a user's ability to create and maintain a "scrapbook" of information pages that are of interest to the user.

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(74) Agents: AUYEUNG, Aloysius, T., C. et al.; Columbia IP Law Group, PC, 10260 SW Greenburg Road, Suite 820, Portland, OR 97223 (US).

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(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

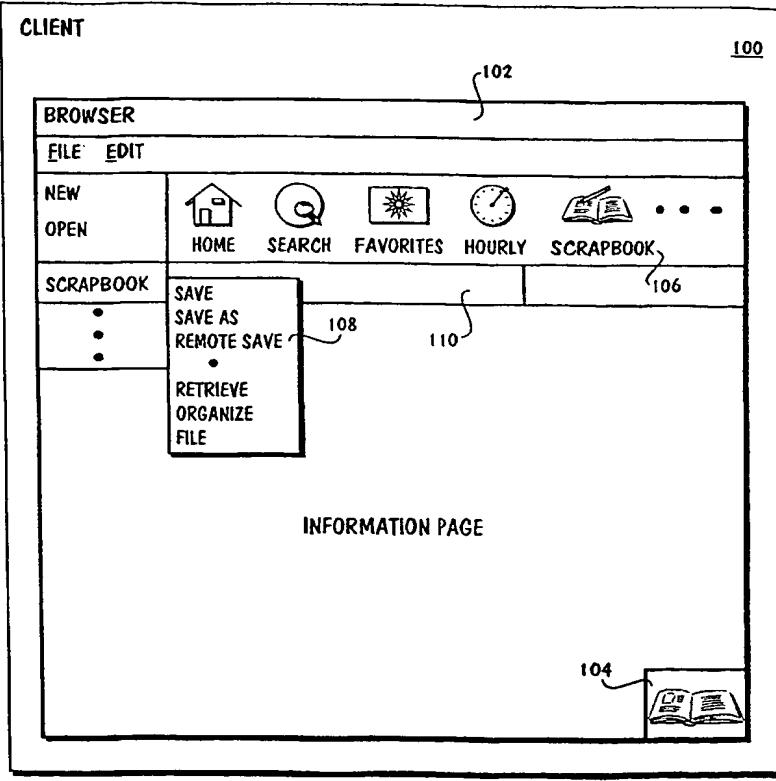
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(54) Title: METHOD AND APPARATUS FOR CREATING AND MAINTAINING A SCRAPBOOK OF INFORMATION PAGES



(57) Abstract: A "state" icon having a plurality of manifestations corresponding to a plurality of states associated with saving a copy of a current information page being browsed is automatically displaced for a user. The "state" icon denotes to the user whether the information page or other variants have been previously saved. A "single click" icon is employed to facilitate saving a copy of the current information page being browsed for a user. The saving is accomplished without requiring further interaction with the user. A "remote save" mechanism is provided to facilitate automatic retrieval of one or more information pages in accordance with one or more specified user conditions, and saving of the retrieved information pages in a repository. The information pages are retrieved and saved without requiring them to be first downloaded to the user's system. Selected ones of these and other features are provided to different embodiments to enhance a user's ability to create and maintain a "scrapbook" of information pages that are of interest to the user.



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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/40801

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G06F17/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 821 927 A (GONG) 13 October 1998 (1998-10-13) column 1, line 47 -column 2, line 10 column 2, line 43 -column 4, line 22 figures 1-8	1-4, 27, 36
Y	US 5 757 372 A (WEISS ET AL) 26 May 1998 (1998-05-26) column 2, line 6 -column 3, line 49 figures 1,2A-2C	1-5, 27, 36
X		12, 16-19, 33
Y		1-5, 27, 36

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

° Special categories of cited documents :

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Date of the actual completion of the international search

16 September 2003

Date of mailing of the international search report

05.01.2003

Name and mailing address of the ISA

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Fax: (+31-70) 340-3016

Authorized officer

Fragua, M

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 00/40801

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-8, 12-13, 14, 16-23, 27-29, 33-34, 36-38

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-8, 12-13, 14, 16-23, 27-29, 33-34, 36-38

Group I relate to a graphical user interface comprising a "save state" icon that denotes to the user whether the current information page being browsed or other variants have been previously saved.

2. Claims: 9-10, 15, 24-26, 30-31, 35, 39-40

Group II relates to a graphical user interface comprising a "single click save" icon to facilitate saving a copy of the current information page being browsed for a user, without requiring further interaction with the user.

3. Claims: 11, 32, 41

Group III relates to a graphical user interface comprising a "remote save" mechanism to facilitate the automatic retrieval of one or more information pages in accordance with one or more specified user conditions, and saving of the retrieved information pages in a remote repository, without requiring them to be first downloaded to the user's system.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/40801

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
US 5821927	A 13-10-1998	US	6243089 B1	05-06-2001
US 5757372	A 26-05-1998	NONE		